FORSPAN ASSESSMENT MODEL FOR CONTINUOUS ACCUMULATIONS-BASIC INPUT DATA FORM (NOGA, Version 7, 6-30-00)

IDENTIFICATION INFORMATION

Ass	sessment Geologist:	R.C. Milici					Date:	1/15/2002	
Region: North America Number:							Number:	5	
Pro	vince:	Appalachian E	Basin			<u> </u>	Number:	5067	
Tot	al Petroleum System:.	Devonian Sha	le-Middle a	and Upper Pale	eozoic	<u> </u>	Number:	506704	
	sessment Unit:	Devonian Silts				<u> </u>	Number:	50670463	
Bas	sed on Data as of:	State-Supplied Da	ata, Atlas of N	Major Appalachian	Gas Plays (1996)	, PI/Dwights (200	0), and DOE stu	udies	
Notes from Assessor Replaces play 6741. Area is thermally mature and transitional between Devonian									
					the Catskill de				
		J							
	CHARACTERISTICS OF ASSESSMENT UNIT								
As	sessment-Unit type:	Oil (<20,000 cf	g/bo) <u>or</u> G	as (<u>≥</u> 20,000 cf	g/bo)	Gas			
Wh	at is the minimum tota	al recovery per	cell?	0.01	(mmbo for oil A	A.U.; bcfg for	gas A.U.)		
	mber of tested cells:		12500		`				
Nu	mber of tested cells with	total recovery	per cell > r	ninimum:		7350			
	ablished (>24 cells > min.)	-			_	lypothetical (no	cells)		
	dian total recovery per d						•		
	, ,	1st 3rd disco		0.05	2nd 3rd		3rd 3rd	0.03	
					_		-		
As	sessment-Unit Probab	ilities:							
	Attribute			Probal	bility of occurre	ence (0-1.0)			
1. 0	CHARGE: Adequate per	troleum charge	for an unte	ested cell with	otal recovery >	minimum		1.0	
	ROCKS: Adequate rese	-						1.0	
	ΓΙΜΙΝ G : Favorable geol	•				. —		1.0	
	- · · · · · · · · · · · · · · · · · · ·				, , _		-	-	
As	sessment-Unit GEOLC	GIC Probabilit	ty (Produc	t of 1, 2, and 3):		1.0		
4.	ACCESS: Adequate loca	ation for necess	ary petrole	eum-related ac	tivities for an u	ntested cell			
	with total reco	very <u>></u> minimun	n					1.0	
		•					-		
	NO. OF UNTESTED	CELLS WITH P	OTENTIA	L FOR ADDIT	ONS TO RES	ERVES IN TH	E NEXT 30 Y	YEARS	
1.	Total assessment-unit	area (acres): (เ	uncertainty	of a fixed valu	ie)				
		, , ,	-	13,199,000		14,665,000	maximum	16,132,000	
					_	, ,	•		
2.	Area per cell of unteste	ed cells having r	otential fo	r additions to r	eserves in nex	t 30 vears (ac	res):		
	(values are inherently v	• .	minimum		median	110	maximum	240	
	(,			_		•		
3.	Percentage of total ass	sessment-unit a	rea that is	untested (%):	(uncertainty of	a fixed value	•		
٠.	1 orderitage of total acc	occinioni dinica	minimum	, ,	median	90.2	maximum	96.1	
								00.1	
4	Percentage of untested	l assessment-u	nit area tha	at has potentia	I for additions t	o reserves in			
٠.	next 30 years (%): (a r			•					
	(uncertainty of a fixed v	-	minimum	•	median	25	maximum	44	
	(ancertainty of a fixed)	raide)			median_		maximum	¬ ¬	

TOTAL RECOVERY PER CELL

(values are inherently variable) (mmbo for oil A.U.; bcfg for gas A.U.)	minimum 0.01	median	0.03	maximum	0.5
AVERAGE COPRODUCT R		•	SESS CC	PRODUCTS	
Oil assessment unit: Gas/oil ratio (cfg/bo) NGL/gas ratio (bngl/mmcfg)	ncertainty of fixed but un minimum	r	median	<u> </u>	maximum
Gas assessment unit: Liquids/gas ratio (bliq/mmcfg)	12		24		36
SELECTED) ANCILLARY DATA FO	OR UNTESTED C	ELLS		
SELECTED Oil assessment unit: API gravity of oil (degrees)	(values are inherently minimum	variable)	ELLS median	- - -	maximun

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO STATES

Surface Allocations (uncertainty of a fixed value)

1. New York	represents	17.46	_areal % of the assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			<u>15</u> 0	
2. Ohio	represents	7.72	_areal % of the assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			<u>5</u>	
3. Pennsylvania	_represents	32.99	_areal % of the assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			35 0	
4. Virginia	represents	5.52	_areal % of the assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			<u> </u>	

5. West Virginia	represents	36.32	_areal % of the asse	ssment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			40	
6	_represents		_areal % of the asse	ssment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
7	represents		areal % of the asse	ssment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
8	_represents		_areal % of the asse	ssment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO LAND ENTITIES

Surface Allocations (uncertainty of a fixed value)

1. Federal Lands	_represents	8.08	_areal % of the ass	essment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			10	
2. Private Lands	_represents		_areal % of the ass	essment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
3. Tribal Lands	_represents	0.19	_areal % of the ass	essment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			0	
4. Other Lands (includes private, state, etc)	_represents	91.73	_areal % of the ass	essment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity			90	

5	represents	areal % of the assessment ur			
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum		
Gas in gas assessment unit: Volume % in entity					
Portion of volume % that is offshore (0-100%)					
6.	represents	areal % of the assessment	unit		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum		
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)					
7	represents	areal % of the assessment	unit		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum		
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)					
8.	represents	areal % of the assessment	unit		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum		
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)					

9	represents	areal % of the assessment uni		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
10	represents	areal % of the assessment	unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median 	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
11	represents	areal % of the assessment	unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
12	represents	areal % of the assessment	unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median 	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO FEDERAL LAND SUBDIVISIONS Surface Allocations (uncertainty of a fixed value)

Bureau of Land Management (BLM)	_represents _		_areal % of the	assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)					
2. BLM Wilderness Areas (BLMW)	_represents _		areal % of the	assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)					
3. BLM Roadless Areas (BLMR)	represents		_areal % of the	assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)					
4. National Park Service (NPS)	represents	0.47	_areal % of the	assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			0.47		

5. NPS Wilderness Areas (NPSW)	_represents		_areal % of the	assessment	unit
Oil in oil assessment unit: Volume % in entity	minimum		median		maximum
Portion of volume % that is offshore (0-100%)					
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)					
6. NPS Protected Withdrawals (NPSP)	_represents _		areal % of the	assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)					
7. US Forest Service (USFS)	represents	7.36	_areal % of the	assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			9.53		
8. USFS Wilderness Areas (USFSW)	represents		areal % of the	assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)					

9. USFS Roadless Areas (USFSR)	represents	areal % of the assessment	unit
Oil in oil assessment unit: Volume % in entity	minimum	median	maximum
Portion of volume % that is offshore (0-100%)			
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
,			
10. USFS Protected Withdrawals (USFSP)	represents	areal % of the assessment	unit
Oil in oil assessment unit: Volume % in entity	minimum	median	maximum
Portion of volume % that is offshore (0-100%)			
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
11. US Fish and Wildlife Service (USFWS)	represents	areal % of the assessment	unit
Oil in oil assessment unit: Volume % in entity	minimum	median	maximum
Portion of volume % that is offshore (0-100%)			
Gas in gas assessment unit: Volume % in entity			
Portion of volume % that is offshore (0-100%)			
12. USFWS Wilderness Areas (USFWSW)	represents	areal % of the assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			

13. USFWS Protected Withdrawals (USFWSP)	represents	areal % of the assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
14. Wilderness Study Areas (WS)	represents	areal % of the assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
15. Department of Energy (DOE)	represents	areal % of the assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
16. Department of Defense (DOD)	represents	areal % of the assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity			

17. Bureau of Reclamation (BOR)	_represents _		_areal % of the	assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)					
18. Tennessee Valley Authority (TVA)	_represents _		_areal % of the	assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)					
19. Other Federal	_represents _	0.25	_areal % of the	assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			0		
20	represents		_areal % of the	assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)					

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO ECOSYSTEMS

Surface Allocations (uncertainty of a fixed value)

Allegheny Mountains (ALMT)	represents	3.01	_areal % of the assessment unit		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			3 0		
2. Erie and Ontario Lake Plain (EOLP)	_represents	1.75	_areal % of the as	ssessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	,	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			0		
Northern Cumberland Mountains (NCMT)	_represents	16.76	_areal % of the assessment unit		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			20 0		
4. Northern Glaciated Allegheny Plateau (NGAP)	_represents	13.79	_areal % of the as	ssessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median		maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			<u>10</u>		

5. Northern Ridge & Valley (NRVA)	represents	1.09	_areal % of the assessment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			<u>2</u> 0	
6. Northern Unglaciated Allegheny Plateau (NUAF	<u>)</u> represents	12.81	_areal % of the assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			<u>10</u> 0	
7. Southern Cumberland Mountains (SCMT)	_represents	0.46	_areal % of the assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			0	
8. Southern Unglaciated Allegheny Plateau (SUAF	<u>)</u> represents	44.58	_areal % of the assessment	unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			50	

9. Western Glaciated Allegheny Plateau (WGAP)	represents	5.75	areal % of the assessment unit		
Oil in oil assessment unit: Volume % in entity	minimum		median	maximum	
Portion of volume % that is offshore (0-100%)					
Gas in gas assessment unit:					
Volume % in entity			5		
Portion of volume % that is offshore (0-100%)			0		
10	_represents _		areal % of the assess	sment unit	
Oil in oil assessment unit:	minimum		median	maximum	
Volume % in entity					
Portion of volume % that is offshore (0-100%)					
Gas in gas assessment unit:					
Volume % in entity					
Portion of volume % that is offshore (0-100%)					
11	_represents _		areal % of the assessment unit		
Oil in oil assessment unit:	minimum		median	maximum	
Volume % in entity					
Portion of volume % that is offshore (0-100%)					
Gas in gas assessment unit:					
Volume % in entity					
Portion of volume % that is offshore (0-100%)				-	
12	_represents _		_areal % of the assess	sment unit	
Oil in oil assessment unit:	minimum		median	maximum	
Volume % in entity	-		-		
Portion of volume % that is offshore (0-100%)					
Gas in gas assessment unit:					
Volume % in entity					
Portion of volume % that is offshore (0-100%)					

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO LAND ENTITIES Subsurface Allocations (uncertainty of a fixed value)

Based on Data as of:				
All Federal Subsurface	_represents	_areal % of the assessment unit		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum 	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
2. Other Subsurface	represents	areal % of the assessment unit		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum 	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				